




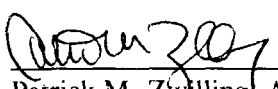
**LETTER REPORT
FOR
WENTWORTH MERCURY SPILL
CHICAGO, COOK COUNTY, ILLINOIS
TDD: S05-0010-018
PAN: 0C1801RZXX**

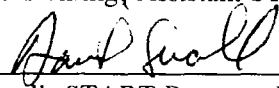
December 8, 2000

Prepared for:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Emergency Response Branch
77 West Jackson Boulevard
Chicago, Illinois 60604**

Prepared by:  Date: 12/8/00
Eric L. Reuscher, START Project Manager

Reviewed by:  Date: 12/8/00
Patrick M. Zwilling, Assistant START Program Manager

Approved by:  Date: 12-8-00
Daniel Sewall, START Program Manager



ecology and environment, inc.

International Specialists in the Environment

33 North Dearborn Street, Chicago, Illinois 60602
Tel. 312/578-9243, Fax: 312/578-9345

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Chicago, Illinois 60602
Tel. 312/578-9243, Fax: 312/578-9345

December 8, 2000

Ms. Gail Nabsny, START Project Officer
United States Environmental Protection Agency
77 West Jackson Boulevard - SE-5J
Chicago, Illinois 60604

Re: Wentworth Mercury Spill
Chicago, Cook County, Illinois
TDD: S05-0010-018
PAN: 0C1801RZXX

Dear Ms. Nabsny:

The United States Environmental Protection Agency (U.S. EPA) mobilized the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E), under Technical Direction Document (TDD) S05-0010-018, to assist On-Scene Coordinator William Simes with an emergency response at the Wentworth Mercury Spill site in Chicago, Illinois (Attachment A, Figure 1). One START member met the OSC on site on November 1, 2000, performed a site assessment, and completed a limited cleanup. Throughout the cleanup, START documented conditions and activities (Attachment B, Photodocumentation). On November 14, 2000, at the OSC's request, START completed a draft Initial/Final POLREP which covered all significant details of the response, and which was accepted by the OSC (Attachment C, POLREP).

The preparation of this Letter Report serves as the final deliverable for this TDD. Please contact this office should any additional information on this site be needed.

Sincerely,

Eric L. Reuscher
START Project Manager

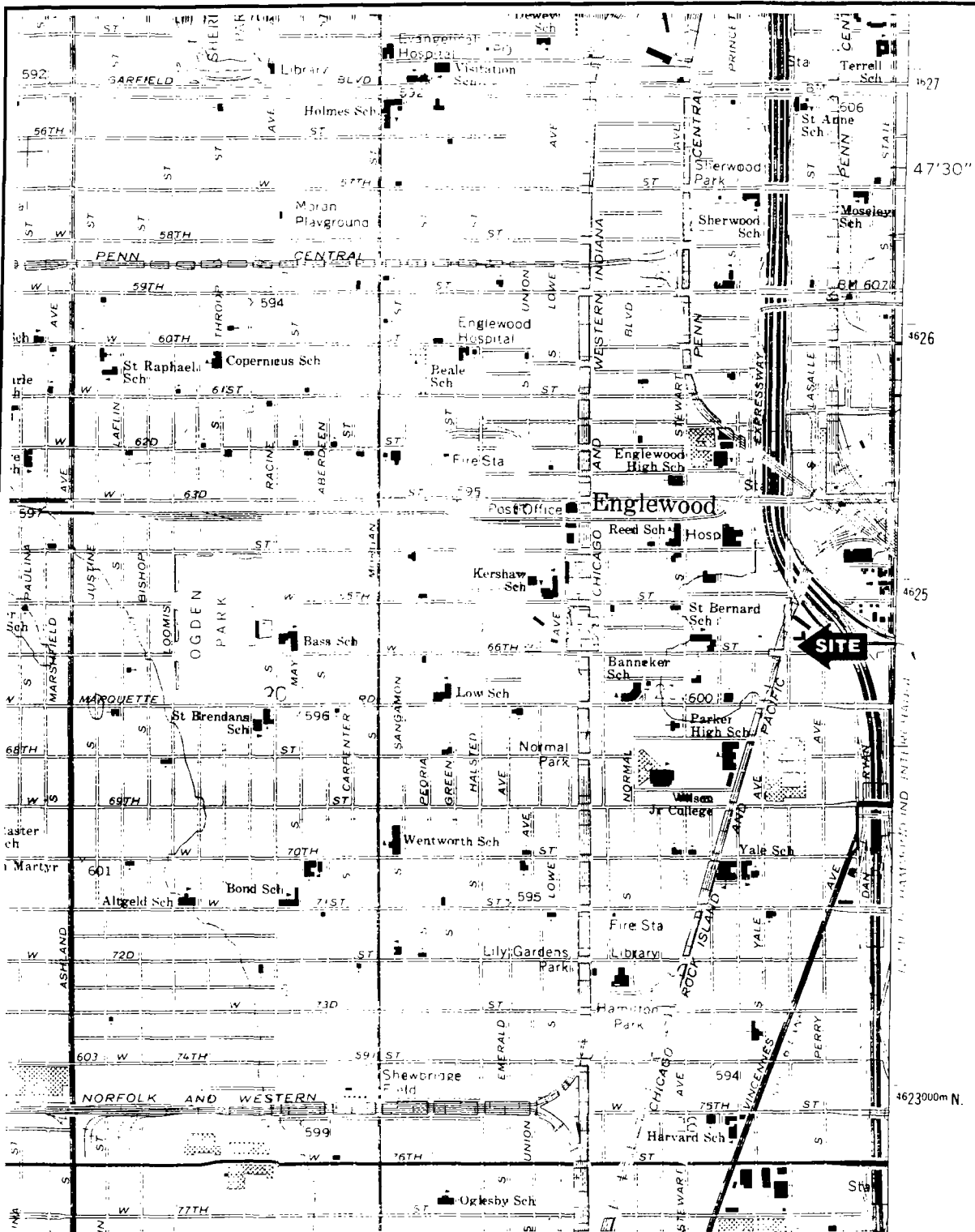
Daniel Sewall
START Program Manager

Attachment: A - Figure
B - Photodocumentation
C - POLREP
D - Validated Analytical Results

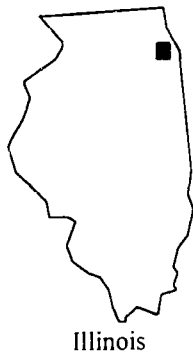
cc: William Simes, U.S. EPA OSC
START TDD file

Attachment A

Figure



Quadrangle Location



Illinois



ecology and environment, inc.

Superfund Technical Assessment and Response Team

Region 5

33 North Dearborn Street, Chicago, Illinois 60602

Title	Site Location Map	Figure	1
Site	Wentworth Mercury Spill	Scale	1:24,000
City	Chicago	State	Illinois
Source	U.S.G.S. 7.5 Minute Series - Englewood, IL Quadrangle	TDD	S05-0010-018
		Date	1963, 1972, 1980

Attachment B

Photodocumentation



Site: Wentworth Mercury Spill
Location: Chicago, IL
Subject: General view of residence.

Date: 11/01/00
Direction: Northwest

Time: ---
Photographer: E. Reuscher



Site: Wentworth Mercury Spill
Location: Chicago, IL
Subject: View of ERRS pouring HgX solution into kitchen drain.

Date: 11/01/00
Direction: West

Time: ---
Photographer: E. Reuscher



Site: Wentworth Mercury Spill
Location: Chicago, IL
Subject: View of catch basin.

Date: 11/02/00
Direction: Down

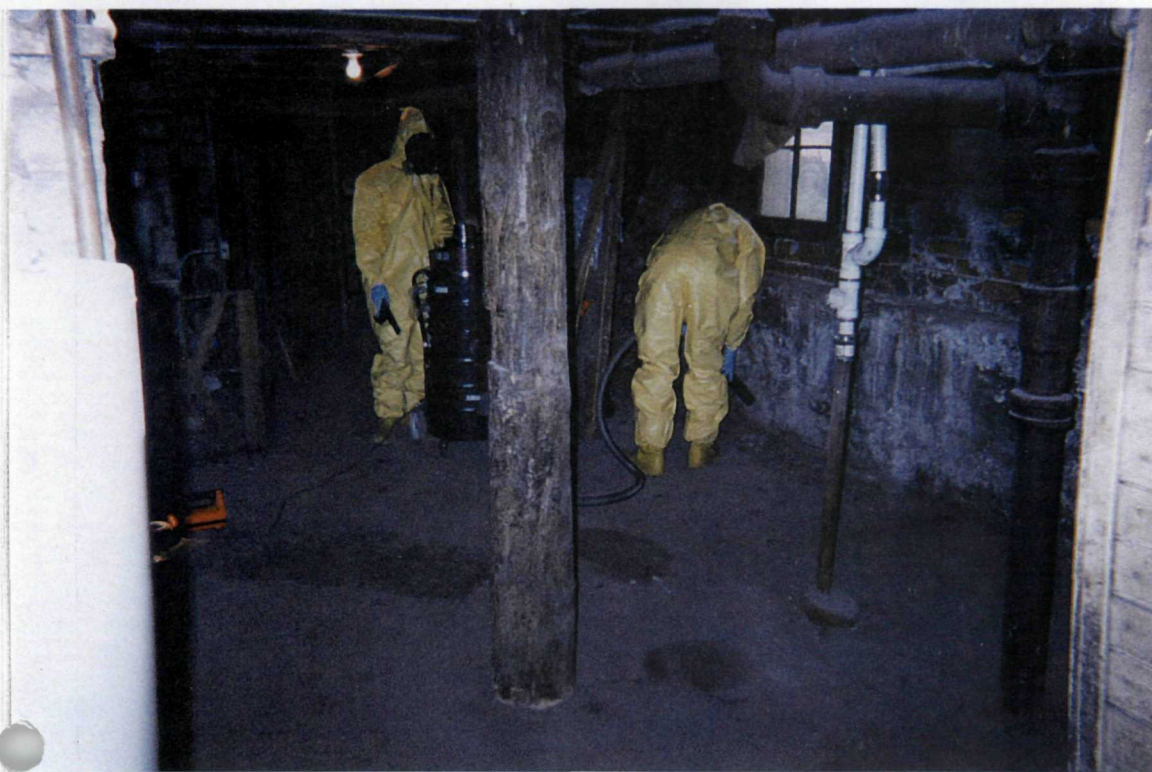
Time: ----
Photographer: E. Reuscher



Site: Wentworth Mercury Spill
Location: Chicago, IL
Subject: View of ERRS using an electric jack-hammer to remove a portion of the basement drainage system.

Date: 11/02/00
Direction: East

Time: ----
Photographer: E. Reuscher



Site: Wentworth Mercury Spill

Location: Chicago, IL

Subject: View of ERRS using a mercury vacuum to clean basement.

Date: 11/01/00

Direction: Northeast

Time: ----

Photographer: E. Reuscher



Site: Wentworth Mercury Spill

Location: Chicago, IL

Subject: View of ERRS using a wet-vacuum to collect wash water from the drainage catch basin.

Date: 11/02/00

Direction: East

Time: ----

Photographer: E. Reuscher



Site: Wentworth Mercury Spill
Location: Chicago, IL
Subject: View of venting procedures.

Date: 11/02/00
Direction: South

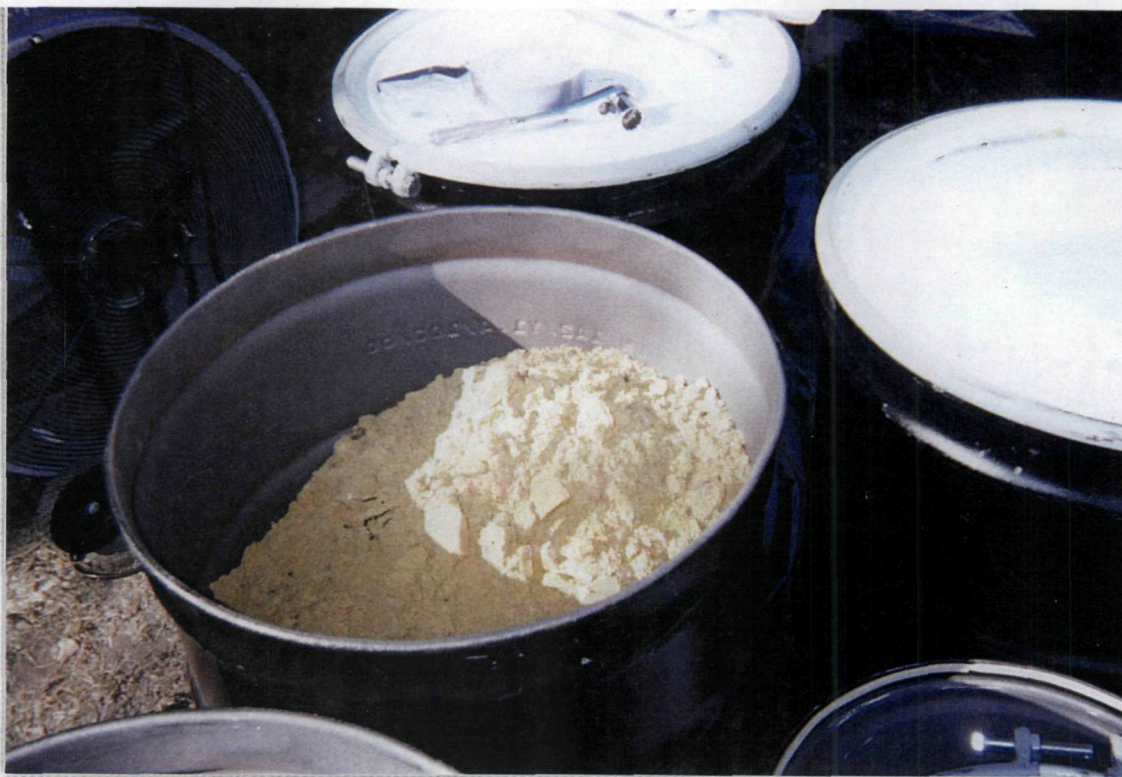
Time: ----
Photographer: E. Reuscher



Site: Wentworth Mercury Spill
Location: Chicago, IL
Subject: View of ERRS power washing drainage system.

Date: 11/02/00
Direction: East

Time: ----
Photographer: E. Reuscher



Site: Wentworth Mercury Spill

Date: 11/03/00

Time: ----

Location: Chicago, IL

Direction: down

Photographer: E. Reuscher

Subject: View of contaminated sand, removed from the basement excavation.



Site: Wentworth Mercury Spill

Date: 11/04/00

Time: ----

Location: Chicago, IL

Direction: East

Photographer: E. Reuscher

Subject: View of repaired excavation.



Site: Wentworth Mercury Spill

Location: Chicago, IL

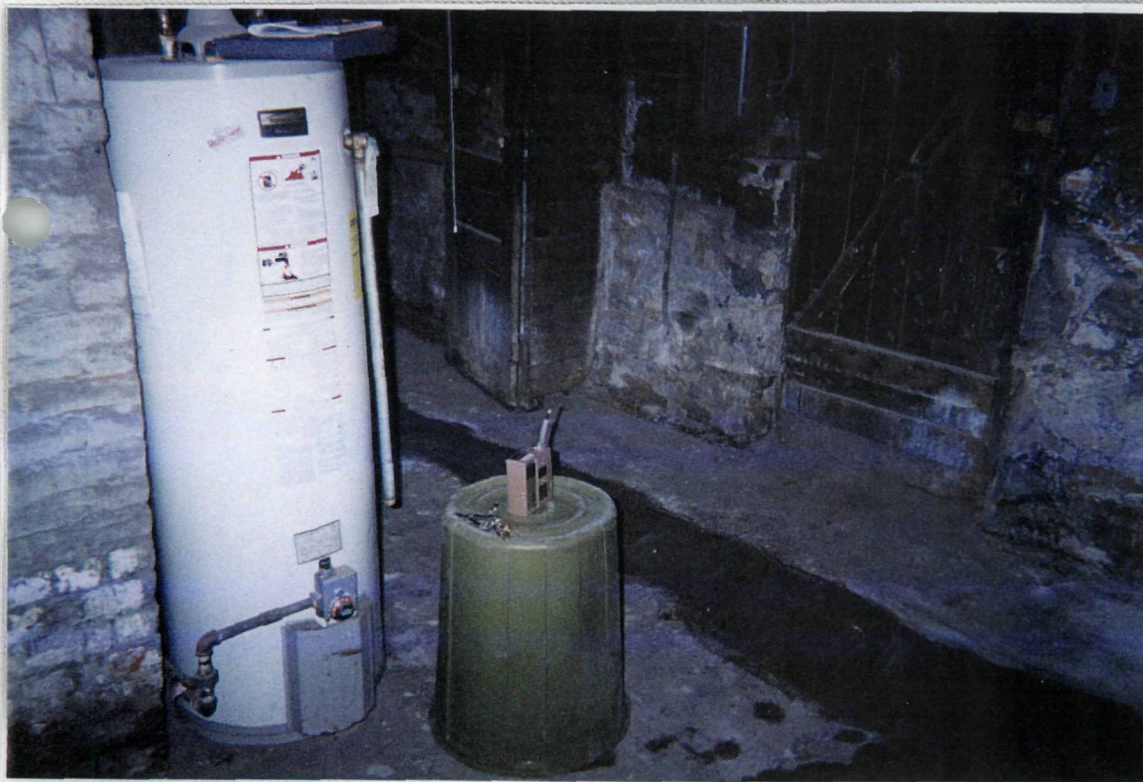
Subject: View of 55-gallon drums of mercury-contaminated waste.

Date: 11/04/00

Direction: North

Time: ----

Photographer: E. Reuscher



Site: Wentworth Mercury Spill

Location: Chicago, IL

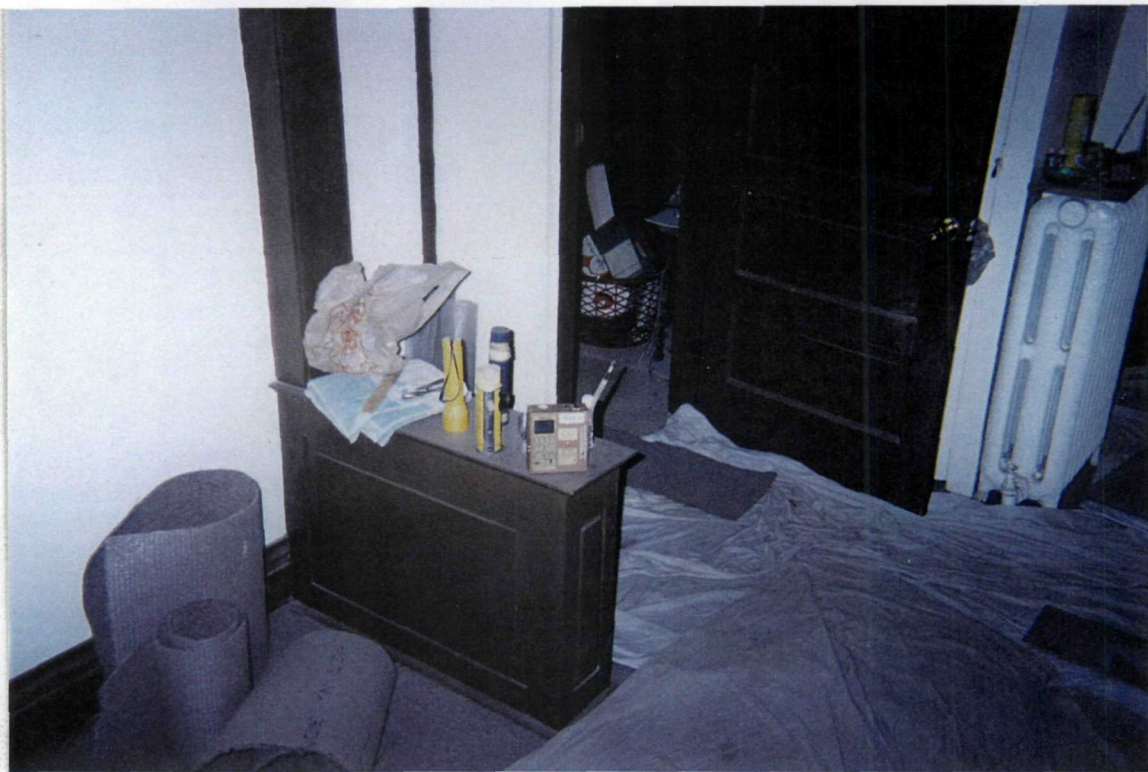
Subject: View of sample location S-1.

Date: 11/9/00

Direction: East

Time: ----

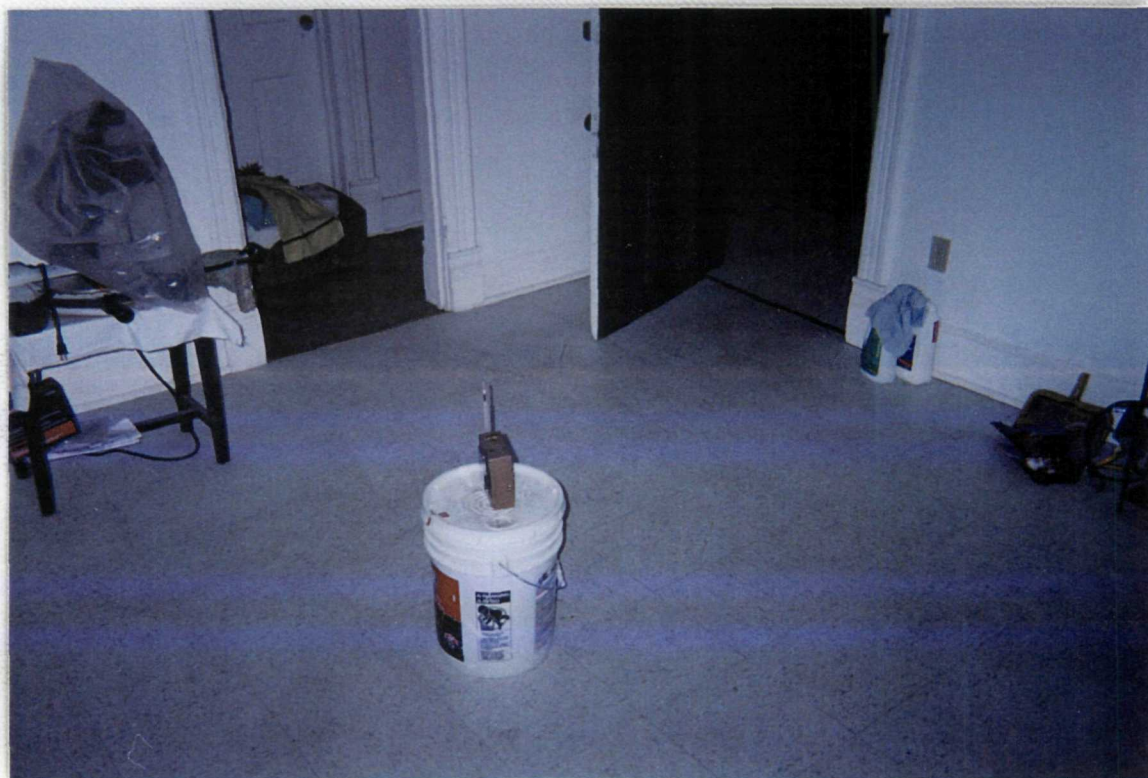
Photographer: E. Reuscher



Site: Wentworth Mercury Spill
Location: Chicago, IL
Subject: View of sample location S-4.

Date: 11/9/00
Direction: Northwest

Time: ----
Photographer: E. Reuscher



Site: Wentworth Mercury Spill
Location: Chicago, IL
Subject: View of sample location S-7.

Date: 11/9/00
Direction: Northwest

Time: ----
Photographer: E. Reuscher

Attachment C

POLREP

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
POLLUTION REPORT**

I. HEADING

DATE: November 14, 2000
SUBJECT: Wentworth Mercury Spill
FROM: Bill Simes, OSC, U.S. EPA, Region 5, EERB, RS-3
TO: K. Mould, U.S. EPA, OSWER, Washington, D.C. E-mail
R. Karl, Branch Chief, U.S. EPA, EERB, Chicago, IL E-mail
L. Nachowicz, Chief, RS III, U.S. EPA, EERB, Chicago, IL E-mail
B. Messenger, Chief, U.S. EPA, ESS, Chicago, IL E-mail
G. Narsete, Community Relations, U.S. EPA, Chicago, IL E-mail
J. Maritote, U.S. EPA, ESS, Chicago, IL E-mail

POLREP No.: POLREP # 1 (Initial and Final)

II. BACKGROUND

Site: Wentworth Mercury Spill	Site No.:
Task Order No.:	Response Authority: CERCLA
CERCLIS No.: N/A	NPL Status: Not on the NPL
State Notification: N/A	Action Memorandum Status: Pending
Incident Category: Emergency Response	Starting Date: October 20, 2000
Reporting Date: November 09, 2000	Completion Date: November 09, 2000

III. SITE DESCRIPTION

The site is a vacant, three-bedroom single-family house owned by Mrs. Debbie Howard, at 6557 South Wentworth Avenue in the City of Chicago, Cook County, Illinois. The site, which is currently being remodeled, is located in an urban residential area, and is bordered by a vacant lot on the north side, 59th Street to the south, Wentworth Avenue on the west side, and a residential home on the east.

IV. RESPONSE INFORMATION

A. Situation

On-site activities have been completed at the Wentworth Mercury Spill site. U.S. EPA and START responded to a spill on October 20, 2000. While on site, U.S. EPA and START performed air monitoring activities, and a limited site remediation, and then departed the site.

On October 20, 2000, a plumber, who was cleaning an outside catch basin and basement drainage system noticed small beads of mercury in a floor drain located in a room in the northeast corner of the basement (D-2). The plumber then removed the beads with a shovel, placed the mercury on a pile of dirt from the

catch basin and placed the debris on the ground in the backyard of the home. Mrs. Howard then notified the U.S. Environmental Protection Agency (U.S. EPA) of the mercury spill. The Ecology and Environment, Inc., Superfund Technical Assistance and Response Team (START) was then alerted that an emergency response would be conducted at the site at noon on October 20, 2000.

B. Response Actions

U.S. EPA On-Scene Coordinator (OSC) Bill Simes and two START members arrived on site at approximately 1200 hours on October 20, 2000 to evaluate the situation. OSC Simes interviewed the plumber and Mrs. Howard, determining the facts outlined in subsection A, above.

At approximately 1220 hours, the OSC and START entered the house via the front door to perform air monitoring with a Lumex® RA-519 mercury vapor analyzer (MVA). The air monitoring reconnaissance areas included the hallways, the kitchen, the dining room, three bedrooms, two bathrooms, the basement, and backyard. Initial air monitoring at the site was completed at approximately 1225 hours. Lumex® readings, ranging from 358 micro grams per cubic meter ($\mu\text{g}/\text{m}^3$) in the front entrance to greater than 28,000 $\mu\text{g}/\text{m}^3$ at the drain next to the stairs to the basement in the backyard, were taken from inside and outside the home. All drains located on the 1st and 2nd floors were screened and all were found to have readings greater than 1,000 $\mu\text{g}/\text{m}^3$.

Based on the air monitoring data, OSC Simes requested that START perform a limited cleanup by using an HgX solution and pouring the solution into drain D-2. Readings of drain D-2 did drop after this action was taken; however, readings taken throughout the home indicated that a mercury source in the drainage system was still present. OSC Simms informed START that he would schedule the U.S. EPA Emergency and Rapid Response Services (ERRS) contractor for complete cleanup and removal of the mercury contamination in the home at a latter date. At approximately 1235 hours, the OSC and START left the site

On November 1, 2000, OSC Simms, START Reuscher, and ERRS contractor Ferguson Harbor, Inc. mobilized to the site to begin cleanup of the home. START conduct an initial walkthrough of the site using the Lumex® MVA. Readings ranged from 80 $\mu\text{g}/\text{m}^3$ on the second floor to 21,000 $\mu\text{g}/\text{m}^3$ at a pile of dust next to D-2. All drains were screened again and found to have readings from 714 $\mu\text{g}/\text{m}^3$ at the 1st floor bath tub to 112 $\mu\text{g}/\text{m}^3$ at the kitchen sink. OSC Simes instructed ERRS to clean and vacuum all basement rooms, pour an HgX solution into all drains in the home, and power-wash D-2 and the associated basement drainage system. All basement water drained to an outside catch basin where it was collected for disposal. ERRS continued to wash the drainage system; however, mercury vapor levels in the basement were not reduced to acceptable levels.

On November 2 and 3, 2000, the OSC, START, and ERRS returned to the site to continue cleanup activities. On November 2, 2000, ERRS used an electric jack hammer to break D-2 out of the concrete floor and to remove related drain tile. As the drain tile and associated surrounding backfill was removed, START observed that Lumex® readings began to fall. On November 3, 2000, ERRS continued to remove drain tile and fill material. When approximately 10 feet of drain tile had been removed, OSC Simes informed START that removal of the drain tile would be halted and ventilation of the basement would begin. Readings were still not found to be acceptable after ventilating the basement for approximately one hour. The OSC then discussed with START that the HgX might be interfering with the Lumex® readings and that the basement and drain should be allowed to air-out over the weekend. All personnel left the site and returned on November 6, 2000.

On November 6, 2000, START conducted a site walkthrough and found that mercury vapor levels had dropped below $100 \mu\text{g}/\text{m}^3$ on both the 1st and 2nd floors and below $1,400 \mu\text{g}/\text{m}^3$ in the small room, in the northeast corner of the basement, where D-2 was located. The remaining drainage system was then power-washed and the drain tile trench and drain area were then backfilled with clean fill and covered with concrete. START then screened the basement and portions of the 1st and 2nd floors. START informed OSC Simms that levels were acceptable and that confirmation sampling could commence.

On November 9, 2000 confirmation sampling was conducted. Results were received on November 14, 2000. All samples fell between the clean up levels used of 1,000 to 300 nano grams per cubic meter of air.

Table of mercury confirmation sampling results.		
Sample number	Location	Results (mg/m ³)
S-1	1 st Floor , center of room	0.00027
S-3	Blank	ND
S-4	2 nd floor, center of room	0.00032
S-5	Blank	ND
S-7	East end of basement	0.00053

C. Next Steps

No additional work is anticipated at the Wentworth Mercury Spill site.

D. Key Issues

None.

V. COST INFORMATION

As of November 09, 2000:

Group	Ceiling Cost	Cost to Date	Remaining
START	N/A	\$ 1,700.00	N/A
U.S. EPA	N/A	N/A	N/A
TOTAL	N/A	\$ 1,700.00	N/A

Note: The above expenditures are estimated based on amounts known by the OSC at the time of preparation of this report. The cost accounting data shown in this report do not necessarily represent the exact monetary figures that the U.S. Government may include in any claim for cost recovery.

VI. DISPOSAL INFORMATION

Wastestream	Quantity	Date of Disposal	Disposal Facility
Mercury-contaminated soil and concrete	(13) 55-gallon drums	Not yet determined	Heritage Environmental, Inc.
Mercury-contaminated water	(2) 55-gallon drums	Not yet determined	Heritage Environmental, Inc.

Attachment D

Validated Analytical Results



ecology and environment, inc.

International Specialists in the Environment

33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243, Fax: 312/578-9345

M E M O R A N D U M

DATE: November 17, 2000

TO: Eric Reuscher, START Project Manager, E & E, Chicago, Illinois

FROM: David Hendren, START Analytical Services Manager, E & E, Chicago, Illinois

THROUGH: Patrick Zwilling, START Assistant Program Manager, E & E, Chicago, Illinois

SUBJECT: Inorganic Data Quality Review for Mercury, Wentworth Residence Mercury, Chicago, Cook County, Illinois

REFERENCE: Project TDD S05-0010-018 Analytical TDD S05-0011-802
Project PAN 0C1801RZXX Analytical PAN 0BAB01TAXX

The data quality assurance (QA) review of five hopcolite tube samples collected from the Wentworth Residence Mercury site is complete. The samples were collected on November 9, 2000, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to E & E Analytical Services Center, Inc., Lancaster, New York. The laboratory analyses were performed according to NIOSH method 6009.

Sample Identification

<u>START Identification No.</u>	<u>Laboratory Identification No.</u>
S-1	11067-01A
S-3	11067-02A
S-4	11067-03A
S-5	11067-04A
S-7	11067-05A

Data Qualifications:

I. Sample Holding Time: Acceptable

The samples were collected on November 9, 2000, and analyzed on November 13, 2000. This is within the 28 days holding time limit.

II. Calibration:

- Initial Calibration: Acceptable

Recoveries for the initial calibration verification standards were within 80 to 120%, as required. The correlation coefficient for mercury exceeded 0.995.

- Continuing Calibration: Acceptable

The recoveries of the continuing calibration verification standards were within 80 to 120%, as required.

III. Blanks: Acceptable

There was no mercury detected in the blanks.

IV. Overall Assessment of Data For Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990) Data Validation Procedures, Section 3.0, Metallic Inorganic Parameters. Based upon the information provided, the data are acceptable for use.

Ecology and Environment, Inc.

Analytical Services Center

3 Walden Avenue
Lancaster, New York 14086-

Laboratory Results

NYS ELAP ID#: 10486

Phone: (716) 685-8080

CLIENT: E and E Chicago Office

Client Sample ID: S-1

Lab Order: 0011067

Alt. Client ID: 1st Fl Center Room

Project: Wentworth Residence

Collection Date: 11/9/00 4:49:00 PM

Lab ID: 0011067-01A Sample Type: SAMP

Matrix: AIR

% Moist:

Analyte	Result	Q	Limit	Units	DF	Date Analyzed	Run Batch ID	Analyst
---------	--------	---	-------	-------	----	---------------	--------------	---------

MERCURY ANALYSIS BY NIOSH METHOD 6009

1_6009_HG_A

Mercury	0.00027		0.00020	mg/m ³	1	11/13/00 5:56:24 PM	LEEMAN_001113A	TS
---------	---------	--	---------	-------------------	---	---------------------	----------------	----

Abbreviations: ND - Not Detected at the Reporting Limit

J - Analyte detected below Reporting limits

B - Analyte detected in the associated Method Blank

H - Value exceeds Maximum Contaminant Level

* - Recovery outside limits

R - RPD outside recovery limits

E - Value above quantitation range

Surr - Denotes Surrogate Compound

M - Matrix Spike recovery outside limits

Q - Qualifier

D - Diluted due to matrix or extended target compounds

N - Single Column Analysis

Ecology and Environment, Inc.

Analytical Services Center

3 Walden Avenue
Lancaster, New York 14086-

Laboratory Results

NYS ELAP ID#: 10486

Phone: (716) 685-8080

CLIENT:	E and E Chicago Office	Client Sample ID:	S-3
Lab Order:	0011067	Alt. Client ID:	Blank
Project:	Wentworth Residence	Collection Date:	11/9/00 4:50:00 PM
Lab ID:	0011067-02A	Sample Type:	SAMP
		Matrix:	AIR
		% Moist:	

Analyte	Result	Q	Limit	Units	DF	Date Analyzed	Run Batch ID	Analyst
---------	--------	---	-------	-------	----	---------------	--------------	---------

MERCURY ANALYSIS BY NIOSH METHOD 6009

1_6009_HG_A

Mercury	ND		0.00025	mg/m ³	1	11/13/00 5:57:43 PM	LEEMAN_001113A	TS
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Conditions: ND - Not Detected at the Reporting Limit

J - Analyte detected below Reporting limits

B - Analyte detected in the associated Method Blank

H - Value exceeds Maximum Contaminant Level

* - Recovery outside limits

R - RPD outside recovery limits

E - Value above quantitation range

Surr - Denotes Surrogate Compound

M -Matrix Spike recovery outside limits

Q - Qualifier

D - Diluted due to matrix or extended target compounds

N - Single Column Analysis

Ecology and Environment, Inc.

Analytical Services Center

3 Walden Avenue
Lancaster, New York 14086-

Laboratory Results

NYS ELAP ID#: 10486

Phone: (716) 685-8080

CLIENT: E and E Chicago Office

Client Sample ID: S-4

Lab Order: 0011067

Alt. Client ID: 2nd Fl Center Room

Project: Wentworth Residence

Collection Date: 11/9/00 4:52:00 PM

Lab ID: 0011067-03A Sample Type: SAMP

Matrix: AIR

% Moist:

Analyte	Result	Q	Limit	Units	DF	Date Analyzed	Run Batch ID	Analyst
---------	--------	---	-------	-------	----	---------------	--------------	---------

MERCURY ANALYSIS BY NIOSH METHOD 6009

1_6009_HG_A

Mercury	0.00032		0.00020	mg/m ³	1	11/13/00 5:58:38 PM	LEEMAN_001113A	TS
---------	---------	--	---------	-------------------	---	---------------------	----------------	----

itions: ND - Not Detected at the Reporting Limit

J - Analyte detected below Reporting limits

B - Analyte detected in the associated Method Blank

H - Value exceeds Maximum Contaminant Level

* - Recovery outside limits

R - RPD outside recovery limits

E - Value above quantitation range

Surr - Denotes Surrogate Compound

M -Matrix Spike recovery outside limits

Q - Qualifier

D - Diluted due to matrix or extended target compounds

N - Single Column Analysis

Ecology and Environment, Inc.

Analytical Services Center

3 Walden Avenue
Lancaster, New York 14086-

Laboratory Results

NYS ELAP ID#: 10486

Phone: (716) 685-8080

CLIENT: E and E Chicago Office

Client Sample ID: S-5

Lab Order: 0011067

Alt. Client ID: Blank

Project: Wentworth Residence

Collection Date: 11/9/00 4:54:00 PM

Lab ID: 0011067-04A Sample Type: SAMP

Matrix: AIR

% Moist:

Analyte	Result	Q	Limit	Units	DF	Date Analyzed	Run Batch ID	Analyst
---------	--------	---	-------	-------	----	---------------	--------------	---------

MERCURY ANALYSIS BY NIOSH METHOD 6009

1_6009_HG_A

Mercury	ND		0.00025	mg/m ³	1	11/13/00 5:59:36 PM	LEEMAN_001113A	TS
---------	----	--	---------	-------------------	---	---------------------	----------------	----

itions: ND - Not Detected at the Reporting Limit

J - Analyte detected below Reporting limits

B - Analyte detected in the associated Method Blank

H - Value exceeds Maximum Contaminant Level

* - Recovery outside limits

R - RPD outside recovery limits

E - Value above quantitation range

Surr - Denotes Surrogate Compound

M -Matrix Spike recovery outside limits

Q - Qualifier

D - Diluted due to matrix or extended target compounds

N - Single Column Analysis

Ecology and Environment, Inc.

Analytical Services Center

3 Walden Avenue
Lancaster, New York 14086-

Laboratory Results

NYS ELAP ID#: 10486

Phone: (716) 685-8080

CLIENT: E and E Chicago Office

Client Sample ID: S-7

Lab Order: 0011067

Alt. Client ID: E end of basement

Project: Wentworth Residence

Collection Date: 11/9/00 4:56:00 PM

Lab ID: 0011067-05A Sample Type: SAMP

Matrix: AIR

% Moist:

Analyte	Result	Q	Limit	Units	DF	Date Analyzed	Run Batch ID	Analyst
---------	--------	---	-------	-------	----	---------------	--------------	---------

MERCURY ANALYSIS BY NIOSH METHOD 6009

1_6009_HG_A

Mercury	0.00053		0.00020	mg/m ³	1	11/13/00 6:00:29 PM	LEEMAN_001113A	TS
---------	---------	--	---------	-------------------	---	---------------------	----------------	----

itions: ND - Not Detected at the Reporting Limit

J - Analyte detected below Reporting limits

B - Analyte detected in the associated Method Blank

H - Value exceeds Maximum Contaminant Level

* - Recovery outside limits

R - RPD outside recovery limits

E - Value above quantitation range

Surr - Denotes Surrogate Compound

M -Matrix Spike recovery outside limits

Q - Qualifier

D - Diluted due to matrix or extended target compounds

N - Single Column Analysis